Mosquito Control for the Homeowner

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Mosquitoes in Navajo County? Many think this is a small problem because of our hot, dry climate. Recent public concerns with some deadly diseases new to the US, such as West Nile virus, has prompted your local Navajo County Public Health District to provide homeowner information to control these pests.

Mosquitoes are important pests because their biting activity interferes with outdoor activities and can transmit diseases to people and domestic animals. Most mosquitoes are active during twilight hours and at night; however, around the home, the mosquitoes that breed in discarded containers are active during the day. Mosquitoes need water to complete their life cycle. They can breed in almost any water source. Pesticides are only a short-term solution to nuisance mosquito problems. Homeowners should realize that the best control measure is to locate and eliminate breeding sites, particularly those as close as the backyard.

All mosquitoes have one common requirement--**they need water to complete their life cycle**. Some lay individual eggs in tree holes or discarded containers, or in depressions in the ground holding water. The eggs can lay dormant for several years. Some eggs hatch when flooded by rainfall. Several flooding and drying cycles are usually required for all eggs to hatch that were laid by a particular female mosquito. Other mosquitoes lay eggs directly on the water's surface. The eggs are attached together to form a raft or the individual eggs float on the water. These eggs hatch in 24-48 hours releasing larvae that are commonly called "wrigglers" because the larvae can be seen wriggling up and down from the surface. Generally, the larvae feed on microorganisms and organic material in the water, but some are beneficial and prey on other mosquito larvae. In about 7-10 days after eggs hatch, larvae change to the pupal or "tumbler" stage in preparation for adult life. Female mosquitoes seek an animal to feed on several days after emerging from water, needing the blood meal to develop her eggs. Males mate with females one to two days after the females emerge. Males do not bite, but they do feed on plant juices.

MOSQUITO BREEDING SITES

Since mosquitoes need water to complete their life cycle, the source of a mosquito problem can be just about anywhere that water can collect. Farm ponds and lakes are typically NOT major mosquito breeding areas if they contain fish and are free of weeds, algae or floating debris in which mosquito larvae can hide. Municipal and farm animal waste lagoons may become breeding sites. Permanent natural bodies of water, such as swamps, usually contain a wide variety of predatory insects and fish that keep mosquitoes from reaching severe nuisance levels, although storms may disrupt this

system and allow mosquito populations to rise rapidly. In residential areas, human activities often create mosquito breeding sites or increase the production of mosquitoes in natural bodies of water. For example, road building and maintenance often impede the drainage of runoff from rainfall, creating a mosquito breeding site. Clogged drainage ditches along roads can become productive mosquito breeding sites. Logging and construction activities often leave tire ruts in the soil. These depressions are ideal breeding sites for "floodwater" mosquito species. The terrible destruction caused by the recent forest fires can provide new sites for mosquito breeding. Around the home, objects such as bird baths, boats, canoes, discarded tires, and plant pots collect rainwater and allow mosquitoes to breed right in the backyard. Stagnant water in unused swimming pools is an ideal breeding site. One of the best things the homeowner can do to reduce mosquito populations and protect themselves from diseases such as West Nile Virus is to eliminate or properly maintain these problem spots:

1. Do not store open containers, tires, etc. on your property where they can collect rainwater. Discard them to a licensed landfill as soon as possible.
2. Check flower pots for excess water.
3. Flush out the water in bird baths every few days.
4. Store boats, canoes and other objects so that they do not collect rainwater. Remove water that collects in depressions in tarpaulins covering boats and other equipment or objects.
5. Keep rain gutters free of leaves and other debris that prevent water from draining.
6. Even watering bowls for pets can provide an environment for mosquito breeding. Change often.
7. Correct drainage problems in your yard to prevent rainwater from pooling.
8. Correct or report drainage problems in ditches along public or private roadways.

Some personal protection from mosquitoes can be achieved through the use of insect repellents. Many of these products contain **DEET** (N,N-diethyl-m-toluamide). Select the desired formulation (e.g., lotion, aerosol spray or cream) containing the highest percent of active ingredient, as stated on the product label, and apply it to only to exposed skin. Repeated use of repellents over a short period of time is not recommended, especially for pregnant women and children. Read and follow all precautions on the product labels.

Electrocutor traps ("bug zappers") placed out of doors are **not** effective in reducing or eliminating mosquito populations. Recent studies have shown that less than $^{1}/_{4}$ of 1% of the insects "zapped" in such devices were actually biting insects. The majority of the insects killed in electrocutor traps are actually beneficial in some form. Electronic mosquito repellers that emit high frequency sound to "repel" mosquitoes have not been shown to be effective.

For additional information about Mosquito control, contact the Navajo County Public Health District office in Holbrook at (928) 524-4750 and in Showlow at (928)532-6050